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NASJRB WILLOW GROVE
5090.3a

INSTITUTIONAL CONTROL INSPECTION REPORT SITE 1 PRIVET ROAD COMPOUND
GROUNDWATER OPERABLE UNIT 3 (OU3) WITH TRANSMITTAL NAS WILLOW GROVE PA
9/18/2012
BASE REALIGNMENT AND CLOSURE PROGRAM MANAGEMENT OFFICE NORTHEAST



DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE, NORTHEAST
4911 SOUTH BROAD STREET
PHILADELPHIA, PA 19112-1303

5090
BPMP NE/WL
Ser 12-121
September 18, 2012

Ms. Lisa Cunningham
Remedial Project Manager
U.S. Environmental Protection Agency
Region III (3HS11)
1650 Arch Street
Philadelphia, PA 19103-2029

Ms. Margaret Pollich
Project Officer
Environmental Cleanup Program
PA Department of Environmental Protection
2 East Main Street
Norristown, PA 19401-4915

Dear Ms. Cunningham and Ms. Pollich:

Enclosed is the Institutional Control Inspection Report for Site 1 - Privet Road Compound Groundwater (OU-3) at Naval Air Station Joint Reserve Base Willow Grove. This inspection was performed on August 15, 2012.

Should you require any further information, please contact me at (215) 897-4904 or e-mail willie.lin@navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Willington Lin", is written over a horizontal line.

WILLINGTON LIN, P.E.
BRAC Environmental Coordinator
By direction of BRAC PMO

Enclosure:
Institutional Control Inspection Report for Site 1 - Privet Road
Compound Groundwater (OU-3)

Copy to:
Horsham Township Authority (T. Ames)
Pennsylvania Air National Guard (Capt Foulkes)
✓ Administrative Record
Horsham Township Library

INSTITUTIONAL CONTROL INSPECTION CHECKLIST
FOR LAND USE CONTROLS
SITE 1-PRIVET ROAD COMPOUND GROUNDWATER (OU 3)
NAS JRB WILLOW GROVE, HORSHAM TOWNSHIP, PENNSYLVANIA

A. Annual certification

Name: Willington Lin
Affiliation: Navy BRAC Environmental Coordinator
Signature: [Signature]
Date: 8/15/12

B. Interview Property Owner

Person interviewed: Lt Col Richard Frattarelli, Pa ANG
Date: 8/15/12

Check as appropriate:

- ☒ No permits, construction, directives, or other guidance has been issued that would change the use of site groundwater.
Comments: MWS 10MW27 and 10MW28 have been properly abandoned due to construction activities.
- ☐ Changes have been made that may change the use of site groundwater
Comments: _____

C. Physical On-Site Inspection

Name: Brian Helland
Affiliation: Navy Remedial Project Manager
Signature: B. Helland
Date: 8/15/12

In accordance with the Land Use Controls of Site 1 Groundwater (OU 3), the following numbered and checked items are being inspected to ensure compliance.

Item	Check one	Comments *
1. Land Use Condition: Uses of treated/untreated groundwater?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	PAANC obtains potable water from two supply wells located east of site 1. The water is treated under permit to remove VOCs prior to distribution.
If yes, is there evidence of use of untreated groundwater in violation of the remedy?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2. Any groundwater supply wells found?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See above and Attachments A and B.
If yes, is there evidence of damage to the remedy?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Weather Conditions	90° F, Sunny	

* If the answer to a question is 'yes', use the Comments column to list type(s) and name(s) of notices, permits, variances, or notices of intent found: Describe the type and location where the non-conforming groundwater use was observed or reported.

ATTACHMENT A

MEMORANDUM FOR THE RECORD

**2012 SITE 1 PRIVET ROAD COMPOUND GROUNDWATER
(OU-3) LAND USE CONTROLS INSPECTION NAS-JRB
WILLOW GROVE, PA**

17 SEP 2012

MEMORANDUM FOR THE RECORD

Subj: 2012 SITE 1 PRIVET ROAD COMPOUND GROUNDWATER (OU-3)
LAND USE CONTROLS INSPECTION NAS-JRB WILLOW GROVE, PA

1. This memorandum details the 2012 annual inspection of compliance with the land use controls (LUCs) that have been placed by the Navy on Site 1 Groundwater at the NAS JRB Willow Grove, Pennsylvania. A description of the site and the LUCs are provided in the Remedial Design of Land Use Controls (RDLUC) for Site 1 Groundwater at the NAS JRB Willow Grove, Pennsylvania, dated August 2010 (Tetra Tech, 2010).

2. The RDLUC describes the program agreed to by the Navy, the United States Environmental Protection Agency (EPA), and the Pennsylvania Department of Environmental Protection (PADEP) to ensure and document compliance with land use controls placed on Site 1 Groundwater (Operable Unit 3). Compliance monitoring includes on-site inspections of Site 1, interviews of property owner and workers, and completion of an Institutional control Inspection Checklist. After completion of the "Physical On-Site Inspection" and "Interview Property Owner" section of the checklist, the "Annual Certification" section is signed by the Navy.

3. The institutional Control Inspection checklist provides verification of compliance with the land-use controls that were previously identified in the Interim Record of Decision (ROD) for Site 1 Groundwater (Tetra Tech, 2008), or referenced in the Sampling and Analysis Plan for Groundwater Monitoring (Tetra Tech, 2011), and deed covenants. Site 1 groundwater is addressed below, documenting the inspection findings, items of noncompliance, if any, and measures taken to correct the items of non-compliance during the year 2012.

4. The following land use controls have been placed on the designated land or areas while the Interim ROD is in force for Site 1 groundwater:

- No new groundwater well(s) may be installed without written consent from EPA and PADEP
- Access to existing and any additional groundwater wells, including supply wells, will be limited by the Navy or subsequent land owner to the organization responsible for groundwater monitoring.

Subj: 2012 SITE 1 PRIVET ROAD COMPOUND GROUNDWATER (OU-3)
LAND USE CONTROLS INSPECTION NAS JRB WILLOW GROVE, PA

The RDLUC, Figure 1, identifies the area of land use limitations.

5. The majority of the Site 1 LUC area has been transferred to the Air Force Reserve and is managed by the Pennsylvania Air National Guard (PaANG). The Armed Forces Reserve Center constructed in 2010-2011 is now fully occupied. The operation of the two supply wells and the responsibility for compliance with the drinking water permit associated with their use have been transferred to the PaANG.

6. Due to construction of a new entrance gate, it was necessary to abandon two monitoring wells located in the Privet Rd Compound. These wells (10MW27 and 10MW28) were located on a traffic island in the PaANG compound. The abandonment included sealing the well with cement grout, cutting the well casing below grade and placing topsoil to grade. A memo documenting the abandonment of these wells is provided as Attachment B.

7. The approved Sampling and Analysis Plan (SAP, Tetra Tech Jul 2011) calls for three rounds of bi-annual groundwater monitoring of select wells. The second monitoring round was completed in August 2011, and is discussed in detail in the Final Groundwater Monitoring Report (Tetra Tech, Apr 2012).

8. The annual institutional control on-site inspection of Site 1 was performed on 15 August 2012. No evidence of new groundwater wells was found during the LUC inspection. All other wells associated with Site 1 were located during the inspection and were intact. No instances of non-compliance with the current LUCs were observed.

9. On 15 August 2012, LtCol Richard Frattarelli of the PaANG, was interviewed and confirmed that no permits, directives, or other guidance had been issued that would change the use of the site groundwater, and no new wells have been installed. As noted in previous inspection reports, monitoring wells 01MW02S, 01MW02I, 01MW03S, and 01MW03I are located in the newly constructed stormwater basin. LtCol Frattarelli stated that surveyors have confirmed that the stick-ups are higher than the elevation of the outlet from the stormwater basin. This issue is now closed.

10. In summary, based on the data obtained during this LUC inspection, there were no instances of non-compliance with the

Subj: 2012 SITE 1 PRIVET ROAD COMPOUND GROUNDWATER (OU-3)
LAND USE CONTROLS INSPECTION NAS JRB WILLOW GROVE, PA

current land use controls for Site 1 groundwater. A third round of bi-annual groundwater monitoring is scheduled for 2013, as specified in the SAP.

A handwritten signature in black ink, appearing to read "B. HELLAND". The signature is written in a cursive, flowing style.


B. HELLAND
Remedial Project Manager
NAVFAC Mid-Atlantic



LEGEND

- MONITORING WELL LOCATION
- PERIODIC GROUNDWATER MONITORING WELL LOCATION
- BOUNDARY OF INSTITUTIONAL CONTROLS

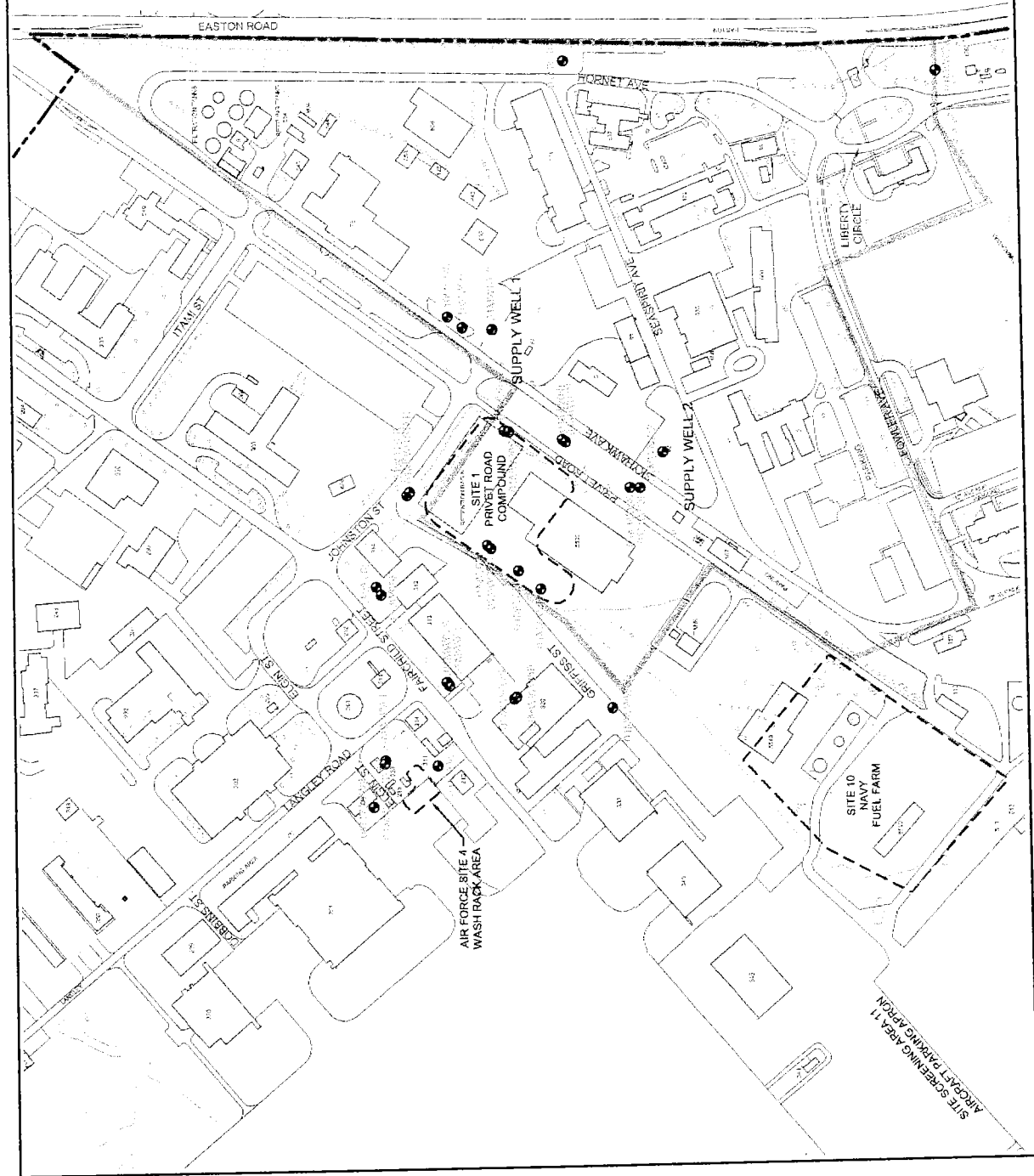
0 250 500
SCALE IN FEET



TETRA TECHNUS, INC.

**SITE LAYOUT AND
PROPOSED LAND USE CONTROL AREA**
SITE 1 - PRIVET ROAD
NAS JRB WILLOW GROVE
WILLOW GROVE, PENNSYLVANIA

FILE	112G02014GM01-2	SCALE	AS NOTED
FIGURE NUMBER	FIGURE 1	REV	0
		DATE	08/22/11



ATTACHMENT B

Monitoring Well Abandonment Forms



PHIL-24713

March 9, 2012

Project Number 02014

Water-Well Drillers Licensing Service
Pennsylvania Geological Society
3420 Schoolhouse Road
Middletown, Pennsylvania 17057-3534

Subject: Monitoring Well Abandonment Forms
Site 1 – Privet Road Compound
Naval Air Station Joint Reserve Base (NASJRB) - Willow Grove
Horsham, Pennsylvania

Tetra Tech is pleased to submit, on behalf of the United States Navy Base Realignment and Closure Program Management Office Northeast, abandonment forms for two groundwater monitoring wells located at the former NASJRB Willow Grove, Pennsylvania.

Please do not hesitate to contact me if you need more copies or have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'AF' or 'Frebowitz', written over a horizontal line.

Andrew Frebowitz
Project Manager

AF/pg

Enclosure

c: Brian Helland (Navy BRAC PMO)
File

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: TETRA TECH, INC. REGISTRATION NO. 10 MW 27
 DATE: 2/22/12 TYPE OF SITE OR PROGRAM: GROUNDWATER MONITORING

1. WELL LOCATION: (Show sketch of location on back of this form.)
 Municipality: HORSHAM TOWNSHIP County: MONTGOMERY
 Quadrangle: AMBIER SITE 1, PRIVATE ROAD
 (Road, community, subdivision, lot number)
 Latitude: 40° 12' 30.48" N Longitude: 75° 08' 31.94" W

2. OWNER AND ADDRESS: U.S. NAVY

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

4. USE OF WELL: MONITORING WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 42'
 DIAMETER OF WELL: 6"

6. AMOUNT OF CASING REMOVED: 3'
 DIAMETER: 6"

7. SEALING MATERIAL	Neat cement	Sand cement
	Bags (94 lbs.): <u>10</u>	
	gals of water: <u>~55</u>	
	yds of sand:	

OTHER MATERIAL GRANULAR BENTONITE amount: 1 50 LB BAG

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:
GROUT PLACED BY TREME METHOD

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 22 ND day of the month of FEBRUARY, 2012 with our active participation and that we are qualified to participate in such abandonment actions.

Joseph J. Tomlinson Signature of Participant: _____ Signature of Participant: _____

Address: 234 MAIL BLVD, SUITE 200 Address: _____
KING OF PRUSSIA, PA 19406

Date: 2/29/12 Date: _____



Tetra Tech

**BEDROCK
MONITORING WELL SHEET
OPEN HOLE WELL**

WELL NO.: 10M427

WELL ABANDONMENT

PROJECT NASIRB WILLOW GROVE LOCATION SITE 1, PRIVET RD
PROJECT NO. _____ BORING _____
DATE BEGUN 2/22/12 DATE COMPLETED 2/22/12
FIELD GEOLOGIST JT TOMAWAGI
GROUND ELEVATION _____ DATUM GROUND SURFACE
DRILLER EICHE/BERGERS
DRILLING METHOD AIR ROTARY
DEVELOPMENT METHOD _____

ACAD: FORM MWCHW.dwg 07/20/99 INL

ELEVATION/HEIGHT OF TOP OF SURFACE CASING: 13

TYPE OF SURFACE SEAL: CONCRETE

I.D. OF CASING: 6"

TYPE OF CASING: STEEL

TEMP./PERM.: PERMANENT

DIAMETER OF HOLE: ~10

TYPE OF CASING SEAL: CEMENT

DEPTH TO TOP OF ROCK: _____

DEPTH TO BOTTOM CASING: _____

DIAMETER OF HOLE IN BEDROCK: 6"

DESCRIBE IF CORE/REAMED WITH BIT:
AIR HAMMER

DESCRIBE JOINTS IN BEDROCK AND DEPTH:

ELEVATION/DEPTH OF HOLE: 142

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: TETRA TECH, INC. REGISTRATION NO. 10MW 28
 DATE: 2/22/12 TYPE OF SITE OR PROGRAM: GROUNDWATER MONITORING

1. WELL LOCATION: (Show sketch of location on back of this form.)
 Municipality: HORSHAM TOWNSHIP County: MONTGOMERY
 Quadrangle: AMBLER SIDE 1, PRIVATE ROAD
(Road, community, subdivision, lot number)
 Latitude: 40° 12' 30.98" N Longitude: 75° 08' 31.16" W

2. OWNER AND ADDRESS: U.S. NAVY

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression. (flat)

4. USE OF WELL: MONITORING WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.
 5. DEPTH OF WELL: 108'
 DIAMETER OF WELL: 4"

6. AMOUNT OF CASING REMOVED: 3'
 DIAMETER: 4" & 10"

	Neat cement	Sand cement
7. SEALING MATERIAL	Bags (94 lbs.): <u>12</u>	<u></u>
	gals of water: <u>70</u>	<u></u>
	yds of sand: <u></u>	<u></u>

OTHER MATERIAL GRANULAR BENTONITE amount: 2-50 LB BAGS

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:
GROUT PLACED BY TREMIE METHOD

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 22nd day of the month of FEBRUARY 2012 with our active participation and that we are qualified to participate in such abandonment actions.

Joseph J. Tomlinson Signature of Participant: _____ Signature of Participant: _____

Address: 234 MAIL BLVD, SUITE 260 Address: _____
KING OF PRUSSIA, PA 19406

Date: 2/29/12 Date: _____



Tetra Tech

BEDROCK MONITORING WELL SHEET WELL INSTALLED IN BEDROCK

WELL NO.: 10MW 28

WELL ABANDONMENT

PROJECT <u>NASTRB WILLOW GROVE</u>	LOCATION <u>SITE 4, RIVET RD</u>	DRILLER <u>ELITE DRILLERS</u>
PROJECT NO. _____	BORING _____	DRILLING METHOD <u>AIR ROTARY</u>
DATE BEGUN <u>2/22/12</u>	DATE COMPLETED <u>2/22/12</u>	DEVELOPMENT METHOD _____
FIELD GEOLOGIST <u>J.S. TEMA/AVACE</u>		
GROUND ELEVATION _____	DATUM <u>GROUND SURFACE</u>	

ACAD: FORM_MWNBDR.dwg 07/28/08 INL

ELEVATION/HEIGHT OF TOP OF SURFACE CASING:	<u>13</u>
ELEVATION/HEIGHT TOP OF RISER:	<u>12.6</u>
TYPE OF SURFACE SEAL:	<u>CONCRETE</u>
I.D. OF SURFACE CASING:	<u>10"</u>
DIAMETER OF HOLE:	<u>10"</u>
RISER PIPE I.D.:	<u>4"</u>
TYPE OF RISER PIPE:	<u>SCH. 40 PVC</u>
TYPE OF BACKFILL:	<u>CEMENT</u>
ELEVATION/DEPTH TOP OF SEAL:	<u>1</u>
ELEVATION/DEPTH TOP OF BEDROCK:	<u>1</u>
TYPE OF SEAL:	<u>LIKELY BENTONITE</u>
ELEVATION/DEPTH TOP OF SAND:	<u>1</u>
ELEVATION/DEPTH TOP OF SCREEN:	<u>198</u>
TYPE OF SCREEN:	<u>SCH. 40 PVC</u>
SLOT SIZE x LENGTH:	<u>0.020" x 10'</u>
I.D. SCREEN:	<u>4"</u>
TYPE OF SAND PACK:	_____
DIAMETER OF HOLE IN BEDROCK:	<u>10"</u>
CORE/REAM:	<u>AIR ROTARY</u>
ELEVATION/DEPTH BOTTOM SCREEN:	<u>1108</u>
ELEVATION/DEPTH BOTTOM OF SAND:	<u>1108</u>
ELEVATION/DEPTH BOTTOM OF HOLE:	<u>1108</u>
BACKFILL MATERIAL BELOW SAND:	<u>NA</u>

